

# **EXHIBIT 4**

## **Redacted First Deposition of Hal J. Singer Excerpts**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEVADA

- - -

IN RE: : Civil Action  
: DOCKET NO.  
CUNG LE, NATHAN QUARRY, : 2:15-cv-01045-RFB-  
JON FITCH, BRANDON VERA, : (PAL)  
LUIS JAVIER VAZQUEZ and :  
KYLE KINGSBURG, on behalf : CLASS ACTION  
of themselves and all :  
others similarly :  
situated, :  
:  
Plaintiffs, :  
:  
v. :  
:  
ZUFFA, LLC, d/b/a :  
ULTIMATE FIGHTING :  
CHAMPIONSHIP and UFC, :  
:  
Defendants. :  
-

Wednesday, September 27, 2017

- - -

Videotaped deposition of  
HAL J. SINGER, Ph.D., taken pursuant to  
notice, was held at the law offices of  
Berger & Montague, P.C., 1622 Locust  
Street, Philadelphia, Pennsylvania 19103,  
beginning at 9:24 AM, on the above date,  
before Constance S. Kent, a Certified  
Court Reporter, Registered Professional  
Reporter, Certified LiveNote Reporter, and  
Notary Public in and for the Commonwealth  
of Pennsylvania.

\* \* \*

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1 Zuffa's foreclosure share, you used the  
 2 regression in Table 6 but you made an  
 3 adjustment and you removed data points  
 4 for Strikeforce prior to its acquisition  
 5 by Zuffa?

6 A. Correct.

7 Q. Okay. Thank you.

8 Then your next damages  
 9 model, which is on the next page, page  
 10 164.

11 A. Yes.

12 Q. Impact regression model  
 13 benchmark. The -- here you also use  
 14 the -- in this benchmark -- in this  
 15 analysis, you are also examining the  
 16 statistical relationship between the  
 17 Zuffa foreclosure share and the fighters'  
 18 share, the share of revenues to fighters  
 19 over time, correct?

20 A. Are we looking at Table 10?

21 Q. This would actually, I  
 22 think, tie to Table 11.

23 MR. CRAMER: 11.

24 THE WITNESS: Okay.

1 I think that my prior answer  
 2 was correct, but it wasn't -- it wasn't  
 3 precise, and I just want to be precise  
 4 about what it's capturing.

5 It is -- it is capturing  
 6 the --

7 Q. When you say "it," you're  
 8 talking about the foreclosure?

9 A. The foreclosure share  
 10 measure.

11 Q. Okay.

12 A. Right. And how it relates  
 13 to the challenged conduct. I think that  
 14 the answer I gave you might create the  
 15 impression that all aspects of the  
 16 challenged conduct were being captured  
 17 by -- by the foreclosure variable, and I  
 18 just want to make it -- it clear that  
 19 there are only certain aspects of the  
 20 challenged conduct that are being  
 21 captured by the foreclosure variable, and  
 22 in that sense, the model is conservative  
 23 in the sense that it is not -- it is not  
 24 necessarily picking up the effect of all

1 BY MR. ISAACSON:

2 Q. You have your tables below  
 3 the sections.

4 A. Sorry. Let me just -- let  
 5 me just get this straight in my head.

6 And before we move to this  
 7 one, something has just been troubling me  
 8 with regard to a question you just asked  
 9 a second ago, and I think I may have  
 10 misunderstood the question. Is it okay  
 11 if I just -- if we can just get some  
 12 clarification.

13 Q. Sure.

14 A. Because I just want the  
 15 record to be sure.

16 You asked me if -- if the  
 17 foreclosure measure is capturing the  
 18 challenged conduct or something to that  
 19 effect.

20 Q. What do you want to say  
 21 about -- just say what you want to say.

22 A. Okay. Let me just tell you  
 23 because I just don't want there to be  
 24 any -- any misunderstanding.

1 elements of the challenged conduct, but  
 2 instead only -- it's really capturing  
 3 certain restrictions that relate to  
 4 exclusivity of the fighter contracts and  
 5 the duration.

6 So I just want to -- I just  
 7 want to clarify that. I don't know if  
 8 that -- if that was what you were asking,  
 9 but I just want to make sure that that  
 10 is --

11 Q. Well, we're still going to  
 12 get to that subject at some point.

13 A. Okay.

14 Q. So I appreciate the preview.

15 A. Okay. So now -- now, let's  
 16 come back to -- I'm sorry for that  
 17 digression, but --

18 Q. All right. So your fourth  
 19 measure of damages is also based on the  
 20 statistical relationship between a Zuffa  
 21 foreclosure share and the fighter shares,  
 22 the share of revenues that went to labor,  
 23 correct?

24 A. So we're in Subsection C on

Page 22

Page 24

164?

Q. Yes.

A. Okay. So this -- this method, as the language suggests, goes back and makes use of the pre-Strikeforce acquisition data to inform the parameter of the --

Q. What's the --

A. I'm sorry, the foreclosure share parameter in the regression.

Q. Both the -- both of these regression benchmarks look at the statistical relationship between Zuffa's foreclosure share and its -- and the fighters' share to fighters over time, but one excludes the Strikeforce -- the data before the Strikeforce acquisition and one includes it?

A. Exactly.

Q. And for common impact for injury in terms of actual modeling, and now I'm just referring to the bout class.

A. So are we leaving damages?

Q. Yes.

to the identity class.

Q. All right. There are two econometric models that you use for purposes of the common impact analysis, am I correct about that?

MR. CRAMER: Objection to form.

THE WITNESS: Can I hear that back? I'm sorry.

(Pertinent portion of the record is read.)

THE WITNESS: Are you -- I'm going to interpret the question, unless it's wrong, with now you're referring to the bout class subsection of the common impact?

BY MR. ISAACSON:

Q. Yes.

A. So I wouldn't -- I wouldn't quite put it that way.

Q. All right. Well, let me ask you. So if you look at page 151 of your report, there's a section on Econometric Evidence of a Compensation Structure?

Page 23

Page 25

A. We're going to common impact now.

Q. Yes.

A. Okay.

Q. Referring to just -- and I should say those damages models that we just went over were just for the bout class and not the identity class?

A. I wouldn't put it exactly that way.

Q. How would you put it?

A. Well, if you recall, I used the results from the bout class regression to inform the -- the deflation factor for the identity class as well.

Q. But the four -- the four models we just described estimate damages for the bout class rather than the identity class; is that correct?

A. I think that when the model appears -- when the write-up appears in the bout class section it's speaking to bout class, and when the model invoked in the identity class section, it's speaking

A. Yes, I see that section.

Q. And broadly speaking, the first type of econometric evidence that you looked at was you performed regressions to determine whether gains or losses in compensation amongst fighters were broadly shared across the bout class.

Do I have that right?

MR. CRAMER: You're asking him to put aside the foreclosure regression?

MR. ISAACSON: I'm just talking about common impact, yes.

MR. CRAMER: Okay. Objection, misstates the system.

THE WITNESS: As part of the two-part proof of common impact, the -- in the second part of the proof, I used econometric methods as well as records evidence to demonstrate a pricing structure.

But I think that the question assumes away the

1 but-for world of a lower foreclosure  
 2 share, are you referring to the specific  
 3 foreclosure share that you would find in  
 4 one of your regressions as opposed to  
 5 some part of that, you know, say half of  
 6 it?

7 MR. CRAMER: Objection to  
 8 form.

9 THE WITNESS: I don't  
 10 understand the question. I'm  
 11 sorry.

12 BY MR. ISAACSON:

13 Q. So -- and that's my fault,  
 14 but let me keep trying.

15 The -- when you refer to the  
 16 but-for world of a lower foreclosure  
 17 share, do you mean the full lower  
 18 foreclosure share that would be specified  
 19 in whatever regression you're looking at  
 20 as opposed to some fraction of it?

21 A. No, I wouldn't put it that  
 22 way.

23 Q. So for example, if I was  
 24 looking at a -- just one of your

1 percentage.

2 A. We're not going to have it.  
 3 But I keep hearing did I have it or did I  
 4 take a percentage of it. The answer is  
 5 no. I didn't -- I didn't do that. No  
 6 simulation halves the foreclosure share.

7 There are three simulations: One  
 8 simulation projects what the fighter wage  
 9 shares would be at zero percent  
 10 foreclosure share, another simulation  
 11 projects what fighter wage shares would  
 12 be at 20 percent foreclosure levels, and  
 13 another simulation projects what fighter  
 14 wage shares would be at 30 percent  
 15 foreclosure.

16 So I'm getting tripped up on  
 17 do I -- does the regression halve it.  
 18 The regression doesn't halve anything.  
 19 Halve as in cut in half. The regression  
 20 takes the data as it is, right?

21 Q. Right.

22 A. It understands the  
 23 relationships between foreclosure share  
 24 and wage share controlling for all

1 regressions and it specified a  
 2 foreclosure share, give me an example of  
 3 a foreclosure share.

4 A. Well, the question -- I'm  
 5 just trying -- the regression doesn't --

6 Q. Help me out and give me an  
 7 example of a foreclosure share, a number  
 8 that would express it.

9 A. 90 percent.

10 Q. Okay.

11 A. It could have been  
 12 90 percent at a given point in time  
 13 depending upon the market definition used  
 14 and depending upon the weighting method  
 15 used.

16 Q. Right.

17 A. The actual foreclosure at a  
 18 given point in time could have been  
 19 90 percent, that would have entered in on  
 20 the right-hand side of regression, but as  
 21 we -- as we move to the but-for  
 22 world we're going --

23 Q. Let me ask a question  
 24 because all I asked you for was a

1 other -- all other things, right, and  
 2 then it's done. Regression is done.

3 The regression doesn't get  
 4 to say what the but-for world looks like.  
 5 I'm using the regression parameters to  
 6 project what fighter wage shares would be  
 7 in a but-for world in which the  
 8 foreclosure share was either zero  
 9 percent, 20 percent or 30 percent.

10 Q. All right. The -- so if you  
 11 had a regression that specified a  
 12 foreclosure share of 90 percent,  
 13 depending on which model you were using,  
 14 your but-for world would have a  
 15 foreclosure percent of zero percent,  
 16 20 percent or 30 percent, do I have that  
 17 correct?

18 A. No, you don't have it right.

19 Q. Hum?

20 A. You don't have it right.  
 21 I'm getting tripped up on the word if the  
 22 regression specifies a foreclosure share  
 23 of 90 percent.

24 Q. Well, let me take that out

1 of the question then.

2 For each of your models, you  
3 have a but-for world where the  
4 foreclosure share for Zuffa is either  
5 zero percent, 20 percent or 30 percent.

6 Do I have that right?

7 A. I think you've got that  
8 right.

9 Q. Okay. And that's regardless  
10 for what foreclosure is specified in the  
11 regression?

12 A. I'm just -- I wish we could  
13 use a different word than specified.

14 Q. What word would you use?

15 A. The regression doesn't get  
16 to specify the foreclosure share, just as  
17 the regression doesn't get to specify how  
18 many punches a fighter threw, right, or  
19 how many successful punches.

20 Q. Tell me what word you want  
21 me to use.

22 A. So the regression takes the  
23 data as the world presents it. The  
24 regression doesn't get to specify.

1 regression doesn't get to specify, the  
2 regression takes the foreclosure share as  
3 an input.

4 Q. So regardless of the measure  
5 of foreclosure share that's generated by  
6 any specific model, the world -- you are  
7 going to assume for purposes of  
8 estimating impact or damages that the  
9 actual foreclosure share of Zuffa will be  
10 zero, 20 percent or 30 percent depending  
11 on the model?

12 MR. CRAMER: Objection to  
13 form.

14 BY MR. ISAACSON:

15 Q. That's correct?

16 MR. CRAMER: Objection to  
17 form.

18 THE WITNESS: It was close.  
19 You said the model to start the  
20 question, and just again to be --  
21 to be specific, the regression --  
22 the regression doesn't get to pick  
23 the foreclosure share. The  
24 foreclosure share flows from which

1 Q. Foreclosure is an output of  
2 the regression?

3 A. No, it's an input. It's an  
4 input.

5 Q. Okay. So --

6 A. But the regression doesn't  
7 get to -- doesn't get to pick what  
8 foreclosure is or specify it. Maybe I'm  
9 misinterpreting what you mean by--

10 Q. I'm just trying to find a  
11 word that you're comfortable with.

12 A. The regression takes the  
13 data as the world presents it and looks  
14 for relationships between those data.

15 Q. Right.

16 A. All right? So it doesn't  
17 specify. The -- maybe what would be  
18 helpful is that the market definition --  
19 the market definition that I choose and  
20 the weights that I apply generate a  
21 measure of foreclosure share.

22 Q. Okay.

23 A. Right? And then I'm going  
24 to apply a regression analysis. But the

1 market definition and which  
2 weighting method I use, right?  
3 That -- that will generate a  
4 foreclosure share that gets spit  
5 out, I think, of a Microsoft Excel  
6 file, and that foreclosure share  
7 is going to be spit out alongside  
8 each observation in the dataset.

9 The regression finds a  
10 relationship between that  
11 foreclosure share and the  
12 fighters' wage share controlling  
13 for all other things and then the  
14 regression is done.

15 At that point, I -- I can  
16 make use of the parameters that  
17 come out of the regression to  
18 project what a fighter's wage  
19 share would be in a but-for world  
20 in which the foreclosure share was  
21 lower.

22 Sorry, I'm being -- I'm  
23 being attacked here by a gnat.  
24 And -- thank you.

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1           And I use three different  
 2       scenarios: Zero percent,  
 3       20 percent and 30 percent.  
 4   BY MR. ISAACSON:

5   Q. Now, when you use a world in  
 6       which there -- Zuffa has zero percent  
 7       foreclosure, how does that translate into  
 8       any -- a market share for Zuffa?

9   A. Oh, it could accommodate  
 10      many different market shares for Zuffa.  
 11      It is -- one way of putting it is almost  
 12      agnostic to the market share. It  
 13      could -- it could accommodate many.

14     You can have -- just to be  
 15      clear, you can have a high market share  
 16      and zero foreclosure share if all of your  
 17      fighters are under, say, 12-month  
 18      contracts.

19     Q. And do I understand  
 20      correctly that if all the Zuffa fighters  
 21      were under 12-month contracts, you would  
 22      expect the foreclosure share of Zuffa to  
 23      be zero or close to zero?

24     MR. CRAMER: Objection to

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1       is there any measure of foreclosure where  
 2       a 12-month contract, in your opinion,  
 3       would not result in the zero or near zero  
 4       foreclosure?

5    MR. CRAMER: Objection to  
 6       form.

7    THE WITNESS: Let me hear it  
 8       back. But I don't think I  
 9       understood it, but let me just  
 10      hear it.

11    BY MR. ISAACSON:

12    Q. Well, because you just told  
 13      me about how your 30-month baseline, and  
 14      you confined your answer to that  
 15      particular measure of foreclosure.

16     And I'm asking you, is there  
 17      any measure of foreclosure where a  
 18      12-month contract for all Zuffa fighters  
 19      would not result in zero or near zero  
 20      foreclosure?

21    MR. CRAMER: Objection to  
 22       form.

23    THE WITNESS: Well,  
 24      certainly not if you use 30 months

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1       form.

2    THE WITNESS: So I -- I deem  
 3       a fighter to be foreclosed, or to  
 4       be working or employed pursuant to  
 5       an exclusionary contract if, as  
 6       you know, the contract is  
 7       exclusive and if the duration  
 8       exceeds a certain number of  
 9       months. I use 30 months I think  
 10      as my -- my baseline approach.

11    And so if you -- if you  
 12      allow me to use that 30-month  
 13      baseline or cutoff as a measure  
 14      for whether a fighter is  
 15      foreclosed, and if your question  
 16      posits that every Zuffa fighter  
 17      under contract is -- is at  
 18      12 months, then by construction,  
 19      12 months is less than 30 months,  
 20      and therefore, under that  
 21      particular measure of foreclosure,  
 22      no fighter would be foreclosed.

23    BY MR. ISAACSON:

24    Q. All right. Is there any --

1       as the cutoff, but if -- if the  
 2       court, for example, were to deem  
 3       that 12 months with an  
 4       exclusion -- with an exclusive  
 5       arrangement were exclusionary,  
 6       then contracts with 12 months  
 7       would be exclusionary. It's  
 8       tautological. It depends on where  
 9       you draw the cutoff and what --  
 10      what conditions you require for --  
 11      for one to conclude that a  
 12      contract was exclusionary.

13    BY MR. ISAACSON:

14    Q. All right. So I'm not  
 15      asking you any questions about what  
 16      courts rule, I'm asking you questions  
 17      that come out of your models.

18      Is there any measure of  
 19      foreclosure in any of your models where a  
 20      12-month contract for all Zuffa fighters  
 21      would not result in zero or near zero  
 22      foreclosure?

23    MR. CRAMER: Objection to  
 24       form. Asked and answered.

1 THE WITNESS: I'd have to  
 2 think about it some more, but I  
 3 think I -- I think I gave you -- I  
 4 think I gave you what the answer  
 5 was, which is that it depends  
 6 on -- on how you draw the -- the  
 7 line.

8 BY MR. ISAACSON:

9 Q. All right. And how would  
 10 you define zero percent foreclosure? You  
 11 said some of your models assume zero  
 12 percent foreclosure. How do you define  
 13 zero percent foreclosure?

14 A. So no model assumes it.  
 15 Just to be clear, I'm projecting but-for  
 16 worlds in which the foreclosure share is  
 17 zero, 20 or 30 percent. But I'm  
 18 interpreting the question as how could  
 19 Zuffa get to zero percent foreclosure?

20 Q. Right. How would you define  
 21 Zuffa with zero percent foreclosure?

22 A. It can get -- you could get  
 23 to zero percent foreclosure in myriad  
 24 ways. So I'm not -- I'm not specifying

1 share?

2 MR. CRAMER: I'm going to  
 3 object to the extent it calls for  
 4 a legal conclusion.

5 But you can answer.

6 And asked and answered.

7 THE WITNESS: I think I've  
 8 covered -- I've covered the basis.  
 9 I think that the most -- the most  
 10 obvious way to construct it is by  
 11 coming up with a baseline in terms  
 12 of number of months in which an  
 13 exclusive contract is deemed  
 14 exclusionary and positing a world  
 15 in which Zuffa's contracts come  
 16 under that -- that cutoff. They  
 17 could be 15 months long, they  
 18 could be 17 months long.

19 BY MR. ISAACSON:

20 Q. All right. And that cutoff  
 21 that needs to be posited, is that a legal  
 22 cutoff or is that a matter of economics?

23 MR. CRAMER: Objection to  
 24 form.

1 exactly how you get there. I can give  
 2 you examples, I think we just did, in  
 3 which the legal standard is 30 percent --  
 4 30 months -- sorry. If the legal  
 5 standard were 30 months and if counter-  
 6 factually all of -- well, and if Zuffa's  
 7 contracts all were 12-month contracts,  
 8 then the foreclosure share by my measure  
 9 would be zero percent.

10 But that's just one way.  
 11 There are -- there are many -- there are  
 12 many ways to get your foreclosure share  
 13 down. You can -- you can divest --  
 14 divest fighters and send -- send fighters  
 15 to a -- to an independent organization  
 16 thereby decreasing your market share and  
 17 thereby decreasing your foreclosure  
 18 share.

19 There's -- there are many  
 20 ways to get to -- to a lower foreclosure  
 21 share.

22 Q. All right. So can you give  
 23 me some other examples of ways that Zuffa  
 24 could get to zero percent foreclosure

1 THE WITNESS: I think it is  
 2 ultimately a legal decision, but  
 3 it can be informed through  
 4 economics. I hope economics can  
 5 inform the law at times.

6 BY MR. ISAACSON:

7 Q. All right. You mentioned  
 8 reducing the baseline number of months  
 9 for the exclusive contracts, and you  
 10 mentioned divesting fighters to -- to an  
 11 independent organization from Zuffa.

12 Are there any other examples  
 13 that you can think of as to how Zuffa  
 14 could reach zero or near zero  
 15 foreclosure?

16 A. Sure. I can keep on coming  
 17 up with examples.

18 One example would be that  
 19 there's no exclusivity provision in the  
 20 contracts.

21 Q. All right. That's one. Are  
 22 there any other examples?

23 MR. CRAMER: Asked and  
 24 answered, form.

1           THE WITNESS: I can't think  
2           of others.

3 BY MR. ISAACSON:

4       Q. All right. Now, you do  
5 define markets in your report at a high  
6 level. Let me see if I've got what  
7 you've got.

8       For input markets, you've  
9 defined a tracked market by referring to  
10 data from FightMetric -- FightMetrics  
11 (sic) right?

12      A. I certainly use FightMetrics  
13 (sic), but I prefer to say that I have --  
14 I have a relevant input market and a  
15 relevant input submarket, and I use two  
16 different standard industry databases to  
17 identify the fighters in the relevant  
18 input market.

19      Q. Right.

20      A. One is FightMetric, the  
21 other one is Fight Matrix. I'm very  
22 upset about those names, but that's --

23      Q. Right, they're not helpful  
24 to us.

1       fighters who were ranked, but not  
2 tracked, as well as one other MMA  
3 organization.

4       Q. So those are two -- do I  
5 understand it right, those are two  
6 different relevant input markets that  
7 you -- that you have defined?

8       A. This -- this could be a  
9 matter of semantics, but I prefer to say  
10 there's one relevant input market and  
11 these are two different ways to measure  
12 it.

13      Q. What is the one relevant  
14 input market?

15      A. It's -- I think I've defined  
16 it in the report.

17      Q. Feel free to point me in the  
18 report.

19      A. Okay.

20      Q. If it helps you, the  
21 relevant input market discussion is on  
22 page 66.

23      A. Well, if we're going to call  
24 it anything by shorthand, I would prefer

1       A. They're not helpful.

2       Q. But we'll live with them.

3       But -- so you have two  
4 relevant input markets: A tracked market  
5 which -- for which you draw data from  
6 FightMetric, and a ranked market which  
7 draws from data from Fight Matrix,  
8 together with the data from FightMetric.

9       Do I have that right?

10      A. Again, I would prefer to say  
11 there's one relevant input market that  
12 we're -- that we're trying to measure and  
13 I have two different ways of measuring  
14 it. One relies on a database from  
15 FightMetrics (sic), which I refer to as  
16 the tracked method. That's -- that's  
17 really the beginning, because as you  
18 probably are aware, there's a few  
19 additions that I tack on to -- to even  
20 that measure.

21       And then as we move from the  
22 tracked measure to the ranked measure,  
23 I -- I include everybody who made it into  
24 the tracked and I add on additional

1       to use the term relevant input market. I  
2 think that the language in the report  
3 explains what I'm trying to get at, which  
4 is a set of fighters with MMA fighter  
5 services that would be used by an MMA  
6 promotion organization to stage live  
7 events.

8       Q. You told me you preferred to  
9 say there's one relevant input market and  
10 there's two different ways to measure it.

11       What is the one relevant  
12 input market?

13      MR. CRAMER: Asked and  
14 answered.

15      THE WITNESS: These are --  
16 these are MMA fighters who are  
17 used as input to the production of  
18 live MMA events.

19       And to clarify it, I said  
20 two. Of course there's a --  
21 there's a third -- a submarket. I  
22 don't know if --

23 BY MR. ISAACSON:

24       Q. Yeah, we'll get to the

1 submarket.

2 A. Okay.

3 Q. The -- all right. And the  
4 submarket is the -- you used the  
5 headliner definition; is that right?

6 A. Correct.

7 Q. And am I correct that in  
8 your opinion, there would be no broader  
9 market than the markets you have defined  
10 using the tracked measure or the ranked  
11 measure?

12 A. Correct, there's no broader  
13 market. Already I think that the ranked  
14 market is -- is potentially overly broad.

15 Q. And when you -- when you say  
16 there's no broader market, that would  
17 mean there's no reasonable substitutes  
18 outside those markets if, for example,  
19 fighter pay where to go up?

20 A. That's not quite what I  
21 mean.

22 Q. Well, let me ask you this.  
23 Then let me just ask you this question:  
24 In your opinion, are there no reasonable

1 SSNIP analysis, which is S-S-N-I-P.

2 But just returning to my  
3 question, in your opinion, are there no  
4 reasonable substitutes outside the  
5 tracked market and the ranked market if  
6 fighter pay goes up?

7 A. So that -- you haven't  
8 posited the correct question for market  
9 definition. It's not if fighter pay goes  
10 up. It's -- the question is if -- if  
11 Zuffa were to control a certain set of  
12 fighters, could -- could Zuffa exercise  
13 market power in the form of pushing wages  
14 down? You keep saying if prices go up.  
15 That's not the -- that's not market --

16 Q. I appreciate you telling me  
17 I'm not asking the correct questions --

18 A. Well, I mean --

19 Q. But let's stick with --  
20 let's stick with answering my questions.

21 A. Okay. Well, okay, but if  
22 you ask me a question that makes no sense  
23 as a matter of economics, I can't give  
24 you an answer.

1 out -- substitutes outside the tracked  
2 market and the ranked market if fighter  
3 pay rises?

4 MR. CRAMER: From what level  
5 to what level?

6 MR. ISAACSON: It goes up.

7 MR. CRAMER: Okay.

8 THE WITNESS: So I do  
9 allow -- before I answer the  
10 question, I just want to make sure  
11 you understand how I get to the  
12 market. It's not entirely driven  
13 by reasonable substitutes. I'm  
14 asking -- I'm trying to employ the  
15 SSNIP test from the merger  
16 guidelines, and I'm looking for  
17 the smallest set of fighters such  
18 that a hypothetical monopsonist  
19 could exercise market power.

20 And that -- that is the  
21 question that -- that drives the  
22 analysis.

23 BY MR. ISAACSON:

24 Q. And I'll ask you about your

1 Q. In your opinion -- in your  
2 opinion, are there no reasonable  
3 substitutes for the fighters outside the  
4 tracked market and outside the ranked  
5 market?

6 A. I would put the caveat that  
7 if a hypothetical monopsonist controlled  
8 all of the fighters in either of those  
9 two markets, it would be able to  
10 successfully exercise a wage suppression  
11 below competitive levels without having  
12 to fear that a sufficient number of  
13 fighters inside of its net would -- would  
14 substitute to something outside of the  
15 net.

16 And that's a long way of  
17 answering your question, but I think  
18 doing so more precisely as to what is  
19 considered reasonable.

20 If you -- if you have, say,  
21 all of the ranked fighters, and you're  
22 looking at it from the perspective of a  
23 given ranked fighter, let's suppose a  
24 highly ranked fighter, he or she will not

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<p>1 offered alternative methodologies, they      2 all point to numbers that create a range,      3 and I think that -- that any one of them      4 would be a reasonable estimate of      5 damages.</p> <p>6 Q. And within that range, every      7 number within that range you consider to      8 be reasonable, correct?</p> <p>9 MR. CRAMER: Objection to      10 form. Misstates the testimony.</p> <p>11 THE WITNESS: No, because      12 I -- I don't want to pick some      13 number that's -- that's -- that      14 just is randomly chosen between      15 two of my estimates.</p> <p>16 BY MR. ISAACSON:</p> <p>17 Q. All right. That's fair.      18 So every -- you've -- you've      19 estimated a range of damages. Every      20 number within that range that you've      21 estimated, you would consider a      22 reasonable award of damages in this case?</p> <p>23 MR. CRAMER: Form.</p> <p>24 THE WITNESS: Every number</p>	<p>1 Q. Okay. You mentioned the --      2 you mentioned the FightMetric database      3 which is used in connection with your      4 tracked input market as well as your      5 ranked input market. FightMetrics (sic)      6 is a service that promotions pay to --      7 pay FightMetric for; is that right?</p> <p>8 A. I think that a promotion can      9 subscribe and purchase the FightMetrics      10 (sic) data. I know, for example, that      11 Zuffa uses it in its day-to-day business      12 operations.</p> <p>13 Q. Is it the case if you do not      14 subscribe, if you don't pay, that you're      15 not on FightMetric?</p> <p>16 A. That is not my      17 understanding.</p> <p>18 MR. ISAACSON: Can we mark      19 this as Exhibit 4?      20 (Exhibit No. Singer-4, Excel      21 spreadsheet, Weight Data for      22 Foreclosure Shares, was marked for      23 identification.)</p> <p>24 BY MR. ISAACSON:</p>
Page 71	Page 73
<p>1 associated with one of my damages      2 methodologies represents a      3 reasonable estimate of aggregate      4 damages.</p> <p>5 BY MR. ISAACSON:</p> <p>6 Q. All right. And amongst the      7 numbers associated with one of your      8 damages methodologies, you do not have an      9 opinion as to which one is more or less      10 appropriate as an award of damages; is      11 that correct?</p> <p>12 MR. CRAMER: I'm going to      13 object to the extent it calls for      14 a legal conclusion.</p> <p>15 THE WITNESS: I don't think,      16 at least sitting here today, I'm      17 prepared to speak to which is more      18 or less appropriate. They can be      19 evaluated on other dimensions such      20 as more or less conservative. But      21 more or less appropriate, I'm --      22 I'm not even sure I understand      23 what that means.</p> <p>24 BY MR. ISAACSON:</p>	<p>1 Q. Exhibit 4 is a backup file      2 we were provided. It's titled Weight      3 Data for Foreclosure Shares. We've      4 printed out a tab called Combined Event      5 Tab. We've not altered the content, but      6 in order to have the columns fit on one      7 page, we rotated the first row to make      8 the column names vertical, and we also      9 added page numbers and shrunk the columns      10 to fit the content.</p> <p>11 MR. CRAMER: Which did you      12 add?</p> <p>13 MR. ISAACSON: We did add no      14 content. We -- we did some things      15 to make it fit on the page.</p> <p>16 MR. CRAMER: You said you      17 added combined --</p> <p>18 THE WITNESS: No, I think he      19 said he rotated the titles, the      20 headers of the columns so that it      21 would fit.</p> <p>22 MR. CRAMER: Thank you.</p> <p>23 BY MR. ISAACSON:</p> <p>24 Q. Now, as I understand this,</p>

1 this would be pay-per-view revenue data  
 2 that you relied on when you did your  
 3 foreclosure regression?

4 A. It depends on which  
 5 weighting technique I used, right? I've  
 6 done three different weighting  
 7 techniques: The revenue weighted, the  
 8 ranked weighted and unweighted.

9 Q. Okay. So this would be the  
 10 data that you used when you weighted by  
 11 revenue; is that correct?

12 A. I believe so.

[REDACTED]

Q. The -- now, looking down the  
 column called Gate. You have some

1 entries, but a lot of entries where it's  
 2 blank. And am I correct that where you  
 3 did not have actual data for the gate,  
 4 you used some sort of average?

5 A. Well, I wouldn't put it that  
 6 way.

7 Q. Okay. How would you put it?

8 A. I would say that I computed  
 9 an average across a year for a given --  
 10 for a given promoter, and if there was a  
 11 blank in the field, the blank, by  
 12 construction, could not inform the  
 13 average.

14 Q. I just asked you if you used  
 15 an average, but okay.

16 You did use -- where the  
 17 field was blank for gate, you used an  
 18 average across a year for the given  
 19 promoter?

20 A. I believe that's the rule.  
 21 I'd want to go back and check that, but I  
 22 believe that we calculated an average  
 23 revenue per event, per fighter across the  
 24 promotion within a given year for

1 whatever data we had, and that became the  
 2 weight under the revenue weighting  
 3 method.

4 Q. And some of these not only  
 5 were blank, some of them have question  
 6 marks. When there were question marks,  
 7 you were applying the average as you  
 8 described it, correct?

9 A. That sounds reasonable. I'd  
 10 have to -- I'd have to -- I'd want to  
 11 double-check on that, but that sounds  
 12 like a reasonable rule, and I'll leave it  
 13 at that.

20 Q. All right. Now, the data  
 21 that you have for revenue is limited  
 22 to -- I'm sorry, the data that you used  
 23 for revenue was limited to pay-per-view  
 24 and gate revenue; is that correct?

1 A. For the purpose of this part  
 2 of the report, which is the revenue  
 3 weighting method, I believe those are the  
 4 components that informed the average  
 5 revenue per event, per fighter.

6 Q. All right. So if a promoter  
 7 such as Bellator received television  
 8 money other than pay-per-view, that would  
 9 be excluded from this, is that correct?

10 A. If -- if we had data from  
 11 Bellator from something like television  
 12 revenue, that -- the problem is that -- I  
 13 guess I'm stumbling on the question. I  
 14 don't see how you get television revenue  
 15 with respect to one event. You would  
 16 sign a television contract that would  
 17 cover a range of events. I'll leave it  
 18 at that.

19 Q. Okay. But in terms of doing  
 20 this foreclosure, this weighting -- this  
 21 revenue weighting for foreclosure shares,  
 22 you excluded money received from  
 23 television networks by promoters such as  
 24 Bellator, correct?

1 MR. CRAMER: Objection to  
 2 the form.

3 THE WITNESS: Well, to the  
 4 extent we did, we would have  
 5 treated all promotions the same;  
 6 that is, we didn't -- we didn't  
 7 count box revenues for UFC and  
 8 ignore television revenue -- non-  
 9 pay-per-view television revenue  
 10 for some other promoter. We would  
 11 have applied a -- a consistent  
 12 rule across all promoters.

13 BY MR. ISAACSON:

14 Q. But that was the rule you  
 15 did apply was to exclude the television  
 16 revenue?

17 A. I think that -- I think  
 18 that's correct. I think again, if you --  
 19 if you think about what we were trying to  
 20 do, we were trying to figure out what --  
 21 what revenue was being generated at the  
 22 margin, what is -- what is truly  
 23 incremental created by that event, and so  
 24 it's hard to take a lump sum or a fixed

1 source of revenue and -- and attribute  
 2 some portion of that to an event.

3 Q. All right. The pay-per-view  
 4 numbers here, are these actual numbers?

5 A. I believe -- I believe  
 6 they're actual. I believe -- let me put  
 7 it this way: They were the best  
 8 estimates we could get in the data -- in  
 9 the record.

10 Q. All right. Do you know  
 11 where they came from?

12 A. Not off the top of my head,  
 13 but I'm fairly confident that in the  
 14 report I tell you where it comes from.

15 Q. Okay. The gate numbers, are  
 16 those estimates?

17 A. That -- that sounds  
 18 reasonable. That sounds reasonable.

19 Q. And do you know how you did  
 20 the estimates?

21 A. I listed the source in the  
 22 report. I'm -- sitting here, I'm having  
 23 a hard time recalling if it came from  
 24 Zuffa or if it came from some third

1 Q. You have not done any impact  
 2 models or damages models where you --  
 3 where you use as an input the actual  
 4 amount of fighter pay as opposed to the  
 5 fighter share?

6 A. I don't think that's true.  
 7 I have -- in my impact section, I've run  
 8 a model on levels, not related to  
 9 foreclosure share, but levels of fighters  
 10 compared to what other fighter were being  
 11 paid.

12 But if you're asking have  
 13 I -- have I run a model that relates  
 14 foreclosure share to the levels, I have  
 15 not done that.

16 Q. All right. I think I  
 17 understand you, but let me get it  
 18 straight.

19 You have not run any models  
 20 that establish the -- that establish the  
 21 fact of injury or the amount of damages  
 22 that rely on the actual salaries that  
 23 are -- not salaries, the actual  
 24 compensation paid to fighters as opposed

1 establish the fact of common impact.

2 Q. And the results showed that  
 3 individual fighter compensation per event  
 4 moves together with per event  
 5 compensation paid to other fighters; is  
 6 that correct?

7 A. Yes.

8 Q. Okay. And while it  
 9 establishes that the compensation moves  
 10 together, the output of that model does  
 11 not actually demonstrate injury to any  
 12 specific fighter; is that correct?

13 MR. CRAMER: Objection to  
 14 form.

15 THE WITNESS: I would say  
 16 the output of that model in  
 17 conjunction with other steps in  
 18 that two-part proof show impact to  
 19 all fighters.

20 BY MR. ISAACSON:



1 to the fighters' share?

2 MR. CRAMER: Objection to  
 3 form.

4 THE WITNESS: No, I'm going  
 5 to -- I'm going to say no to that  
 6 one. I thought I just clarified.

7 BY MR. ISAACSON:

8 Q. Just say no and I'll ask you  
 9 a follow-up question.

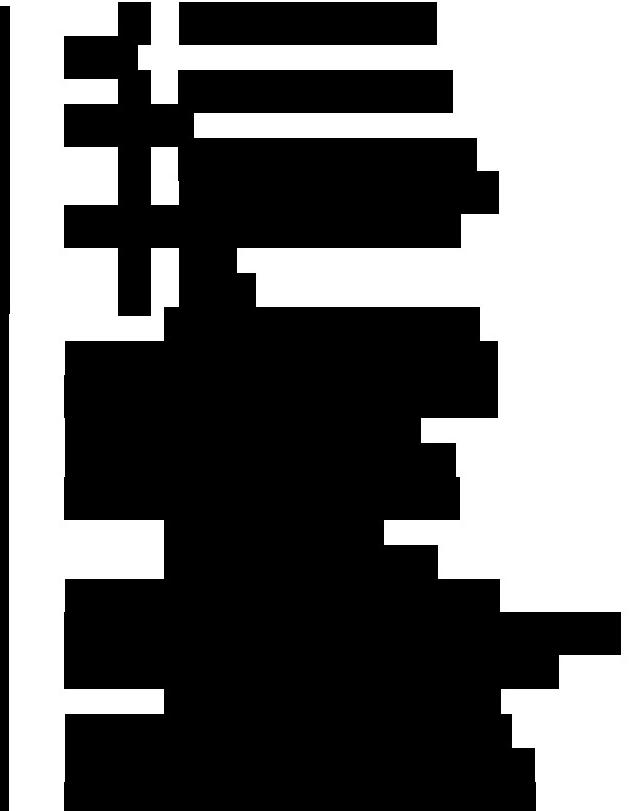
10 A. Fine. No.

11 Q. The -- when you look at  
 12 actual fighter pay, that's when you  
 13 were -- when you used actual fighter pay  
 14 as opposed to fighter share, that's when  
 15 you performed regressions to determine  
 16 whether gains or losses in a compensation  
 17 were broadly shared across the bout  
 18 class, correct?

19 A. Correct, as part of an  
 20 impact model.

21 Q. Right. And does that model  
 22 generate an amount of impact or amount of  
 23 damages?

24 A. No, that model was to



3 A. This analysis must be  
 4 understood in conjunction with other  
 5 analyses in the section, the totality of  
 6 which establishes common impact.

7 Q. I agree with that. What I'm  
 8 saying is this -- this model by itself  
 9 would not show any injury to any specific  
 10 fighter, it would have -- it would have  
 11 to be considered in conjunction with  
 12 other analysis that you've done?

13 A. I think that's fair. I  
 14 would not -- I would not offer this model  
 15 by itself as proof of common impact. I  
 16 would offer it, as I did, in conjunction  
 17 with other models in the section, and  
 18 record evidence, of course.

19 Q. Right. So the models that  
 20 actually conclude by themselves that  
 21 there was damage or impact to individual  
 22 fighters are all expressed in terms of  
 23 fighters' share and don't rely on data  
 24 but actual fighter pay; is that correct?

1 models aren't taking into consideration  
 2 the fighters' pay, I have to -- I have  
 3 to -- I have to reject that.

4 Q. All right. So there is a  
 5 variable in each of your impact models  
 6 and damages models that actually estimate  
 7 a dollar effect on fighters that relies  
 8 on the fighters' share as opposed to the  
 9 absolute level of compensation of the  
 10 fighter. Do I have that right? What you  
 11 call the variable on the left-hand side.

12 A. Yeah, the dependent variable  
 13 in certain models is expressed in terms  
 14 of fighter's share, and to figure out  
 15 what the effect is on a fighter's  
 16 absolute pay, it's a ministerial change  
 17 to convert from an actual fighter share  
 18 to a but-for fighter's share, and then  
 19 knowing what the event revenue was to  
 20 convert to a but-for fighter pay.

21 So I think that -- I think  
 22 that to say that it's -- it's not making  
 23 use of actual fighter pay just misses  
 24 what's -- what's going on.

1 MR. CRAMER: Objection to  
 2 form.

3 THE WITNESS: No, that's not  
 4 correct.

5 BY MR. ISAACSON:

6 Q. The models that show actual  
 7 impact or damages by themselves all are  
 8 expressed in terms of the fighters' share  
 9 of revenue, correct?

10 A. I wouldn't put it that way  
 11 either.

12 Q. Okay. For each of those  
 13 models you were looking at what the  
 14 fighter share of revenue actually was  
 15 compared to what it would be in the  
 16 but-for world using the models that  
 17 you've relied on, correct?

18 A. For certain models, the  
 19 left-hand side variable of the regression  
 20 was expressed in terms of fighter share  
 21 as opposed to absolute level.

22 But I want to make clear for  
 23 the record that the numerator is the  
 24 fighters' pay. So when you say the

1 Q. All right. So on page 155,  
 2 Table 8.

3 A. Okay.

4 Q. Which reports on a  
 5 regression you did for impact. The  
 6 dependent variable there was the  
 7 fighter's share of revenue rather than  
 8 the absolute level of compensation, am I  
 9 correct?

10 A. Correct.

11 Q. Okay. And the same would be  
 12 true for each of the regressions in your  
 13 damages models; is that correct?

14 A. I believe that's fair, that  
 15 the dependent variable in those models  
 16 was fighter share of revenues.

17 Q. I'm going to take a big  
 18 chance here and ask if you can explain  
 19 for our audience what you mean by a  
 20 dependent variable.

21 A. Sure. So the dependent  
 22 variable is the variable that we are  
 23 trying to understand and explain what --  
 24 what drives it to -- to move around. And

<p>1 so we -- you'll also hear the expression 2 the left-hand side variable, but -- but 3 it's -- it's the variable of interest. 4 We are -- we are trying to -- to 5 understand the world through -- through 6 that variable and to explain what causes 7 it to vary.</p> <p>8 Q. All right. So I'd like -- I 9 think variable of interest is a phrase 10 you use in your report, and I guess it's 11 also comfortable calling it a dependent 12 variable for a layperson, the variable 13 we're trying to explain. Both of those 14 would be acceptable?</p> <p>15 A. Sure.</p> <p>16 Q. Okay. The --</p> <p>17 THE VIDEOGRAPHER: We're ten 18 minutes left on this tape, 19 Counsel.</p> <p>20 MR. ISAACSON: All right. 21 We'll go about five more minutes 22 and take a break.</p> <p>23 BY MR. ISAACSON: 24 Q. Have you done damages</p>	<p>1 that in Arizona Travel Nurses? 2 A. Yeah, it's an old case, but 3 I -- some -- some faint memories are 4 coming back, and I -- I believe that 5 to -- to establish similar things, common 6 impact there, we were -- we were looking 7 at the bill rate as the denominator, 8 that's how much the hospital was -- was 9 charging for the -- for the nurse, and 10 the numerator was the wage that went to 11 the -- to the nurse, and so it's an 12 analogous construction of a dependent 13 variable.</p> <p>14 Q. Any other cases that you -- 15 where you've estimated damages using the 16 variable of interest or the dependent 17 variable as the share to labor?</p> <p>18 A. I'm not sure. I'm not sure 19 how many other wage suppression cases 20 I've done besides -- besides these two. 21 I'd have to -- I'd have to go back and 22 think about it.</p> <p>23 Q. Okay. 24 MR. ISAACSON: All right.</p>
<p>Page 107</p> <p>1 analysis before where you had used the 2 percentage of -- the percentage of 3 revenue as opposed to the absolute level 4 of compensation as the variable of 5 interest?</p> <p>6 A. It's possible. Sitting here 7 I'm thinking of another -- of another 8 wage case that I did, which was -- which 9 I refer to as Arizona Travel Nurses, and 10 it's possible that we -- when we did our 11 modeling there, we expressed -- in fact, 12 it's kind of coming back to me. I think 13 we were interested in a nurse's payment 14 relative to her bill rate. So -- so yes, 15 I believe I've -- I've done something 16 like that before.</p> <p>17 Q. You say something like that, 18 have you done -- have you used as the 19 variable of interest before the share of 20 total revenue that goes to the labor 21 force, whether that labor force is an 22 employee or -- or contractors?</p> <p>23 A. I think so.</p> <p>24 Q. Okay. And you think you did</p>	<p>Page 109</p> <p>1 Why don't we take a break? 2 MR. CRAMER: Sure. 3 THE VIDEOGRAPHER: The time 4 is 11:26 AM. We are going off the 5 record, and this is the end of 6 Disk 1. (Recess.) 7 THE VIDEOGRAPHER: The time 8 is 11:40 AM. This is the start of 9 Disk 2, and we are now on the 10 record. 11 BY MR. ISAACSON: 12 Q. So I want to continue our 13 discussion of the percentage of revenue 14 paid to labor as the variable of 15 interest. 16 Is there economic literature 17 that you're familiar with that discusses 18 the percentage of revenue that's paid to 19 labor in a competitive industry as 20 opposed to an industry that's less 21 competitive? 22 A. Is there economic 23 literature? 24</p>

<p>1 Q. Yes.</p> <p>2 A. Yes. I would say that</p> <p>3 the -- the application of micro theory to</p> <p>4 labor markets posits that in a</p> <p>5 competitive market, a laborer captures</p> <p>6 100 percent of their marginal revenue</p> <p>7 products. So it's natural to express the</p> <p>8 dependent variable here as -- as labor</p> <p>9 share of revenue.</p> <p>10 Q. All right. And I'll return</p> <p>11 to my -- you said that about</p> <p>12 microeconomic theory in your report and</p> <p>13 I'll return to that, and I understand</p> <p>14 that that's included within your answers.</p> <p>15 But is there any actual economic</p> <p>16 literature that you're aware of that</p> <p>17 discusses what are the actual percentages</p> <p>18 of revenue paid to labor in a competitive</p> <p>19 industry as opposed to a less competitive</p> <p>20 industry?</p> <p>21 A. Sure. I've cited various</p> <p>22 texts, but I would take you just to a</p> <p>23 basic elementary micro text to look at</p> <p>24 where labor's share of revenue should</p>	<p>1 industries?</p> <p>2 A. I believe so.</p> <p>3 Q. Okay. Can you tell me any</p> <p>4 of those studies or industries that I</p> <p>5 should be looking for?</p> <p>6 A. I don't know if sitting here</p> <p>7 I'm going to be able to tell you specific</p> <p>8 industries, but it's possible that I have</p> <p>9 some citations to it already.</p> <p>10 But I -- I think that the</p> <p>11 concept of -- of labor's share of his or</p> <p>12 her marginal revenue product is the</p> <p>13 foundation of labor economics. It's</p> <p>14 going to be something that is widely</p> <p>15 researched and studied in the abstract</p> <p>16 and in particular industries.</p> <p>17 Q. Can you identify for me any</p> <p>18 peer-reviewed literature that looks at</p> <p>19 labor's share of revenues in estimating</p> <p>20 damages, either for an antitrust case</p> <p>21 or -- antitrust situation or any other</p> <p>22 situation?</p> <p>23 MR. CRAMER: Form.</p> <p>24 MR. ISAACSON: Okay. Let me</p>
<p>1 go -- labor's share of its marginal</p> <p>2 revenue product should go in a</p> <p>3 competitive versus a noncompetitive</p> <p>4 industry.</p> <p>5 Q. All right. Maybe you're</p> <p>6 misunderstanding me. I understand that</p> <p>7 you're saying that microeconomic</p> <p>8 literature and textbooks would express</p> <p>9 that labor should capture 100 percent of</p> <p>10 their marginal revenue product.</p> <p>11 What I'd like to know, is</p> <p>12 there any actual literature that</p> <p>13 discusses, for any specific industries,</p> <p>14 what percentages of -- what percentages</p> <p>15 of revenue are paid to labor in a</p> <p>16 competitive industry as opposed to a less</p> <p>17 competitive industry?</p> <p>18 A. I believe I cite to -- to</p> <p>19 various articles in the literature, but</p> <p>20 the notion of a wage share is commonly</p> <p>21 used throughout labor economics.</p> <p>22 Q. And are there studies where</p> <p>23 actual wage shares, as you say -- as you</p> <p>24 call them, are discussed in specific</p>	<p>1 rephrase it.</p> <p>2 BY MR. ISAACSON:</p> <p>3 Q. Can you identify for me any</p> <p>4 peer-reviewed literature looking where --</p> <p>5 at the labor's share of revenues as valid</p> <p>6 or reliable for estimating damages?</p> <p>7 MR. CRAMER: Form.</p> <p>8 Answer it if you understand</p> <p>9 it.</p> <p>10 THE WITNESS: So the notion</p> <p>11 that an economist is going to be</p> <p>12 writing about damages</p> <p>13 methodologies would only show up</p> <p>14 in a very applied and practical</p> <p>15 journal. Say something like the</p> <p>16 Antitrust -- something that's put</p> <p>17 out by the ABA antitrust section.</p> <p>18 I don't -- I don't think damages</p> <p>19 is a topic that is going to get a</p> <p>20 lot of attention by -- by</p> <p>21 economists in peer-reviewed</p> <p>22 journals outside of some -- some</p> <p>23 kind of practitioner guide.</p> <p>24 BY MR. ISAACSON:</p>

1 Q. All right. Let me try it  
 2 this way then. Can you identify any  
 3 peer-reviewed literature looking at  
 4 labor's share of revenues as the variable  
 5 of interest in determining  
 6 anticompetitive impact?

7 MR. CRAMER: Form. Asked  
 8 and answered.

9 THE WITNESS: I don't know  
 10 if I'm -- if I'm going to be able  
 11 to call up names of particular  
 12 articles off the top of my head,  
 13 but I can tell you that -- that  
 14 the wage share of marginal revenue  
 15 product is the way that you  
 16 understand competition in  
 17 competitive labor markets and how  
 18 you understand the opposite.

19 BY MR. ISAACSON:

20 Q. All right. The -- and I  
 21 think -- and I'll come to that subject  
 22 right now, but right now you can't tell  
 23 me any peer-reviewed literature that  
 24 looked -- that analyzes anticompetitive

1 adds a worker, am I correct?  
 2 A. I think that's a fair -- a  
 3 fair concept.

4 Q. And is it -- is it correct  
 5 that standard economics would predict  
 6 that a worker's compensation would be  
 7 equal to that marginal revenue product of  
 8 labor?

9 A. In a competitive  
 10 environment, the labor's share of his or  
 11 her marginal revenue product tends  
 12 towards higher values, and the limit  
 13 would -- would approach his or her  
 14 marginal revenue product.

15 Q. And in a competitive  
 16 environment, standard economics would say  
 17 that the -- actually, let me start over.

18 When you expressed that  
 19 marginal revenue product is labor or  
 20 wages, do you ordinarily do that in  
 21 dollar terms or in a fraction of the  
 22 firm's revenue?

23 MR. CRAMER: Objection to  
 24 form.

1 impact by looking at labor share of  
 2 revenues; is that right?

3 MR. CRAMER: Asked and  
 4 answered.

5 THE WITNESS: I believe I've  
 6 cited some in my report, but  
 7 sitting here I can't -- I can't  
 8 tell you a particular article.

9 BY MR. ISAACSON:

10 Q. All right. If you look at  
 11 page 120 of your report, footnote 454?

12 A. Yes.

13 Q. You talk about elementary  
 14 economics which shows that competitive  
 15 firms paid labor a share of revenue  
 16 commensurate with labor's productivity  
 17 based on a marginal product to labor.

18 That's the principle that  
 19 you were just discussing with me?

20 A. Yes.

21 Q. Is that right?

22 And -- now the marginal  
 23 revenue product labor is the value of the  
 24 additional output created when a firm

1 THE WITNESS: Do I  
 2 ordinarily do it? I'm sorry, I'm  
 3 just not following.

4 BY MR. ISAACSON:

5 Q. How about in standard  
 6 economics?

7 MR. CRAMER: Same objection.

8 THE WITNESS: I think that  
 9 in standard economics you would  
 10 put the wage in the numerator and  
 11 you'd put the marginal revenue  
 12 product in the denominator.

13 BY MR. ISAACSON:

14 Q. And the marginal revenue  
 15 product would be expressed as a dollar  
 16 value?

17 A. Yes.

18 Q. And do economists ordinarily  
 19 measure the productivity of the  
 20 additional output -- well, let me put it  
 21 differently.

22 Do economists generally  
 23 measure the productivity created when a  
 24 firm adds a worker in dollar terms as

1 opposed to as a percentage of revenue?

2 MR. CRAMER: Objection to  
3 form, to generally. For what  
4 purpose?

5 THE WITNESS: A firm could,  
6 if a firm bills -- if a law firm  
7 bills an associate out at \$400 an  
8 hour, it could express what the --  
9 what the young lawyer's salary on  
10 an hourly basis is as a -- under  
11 an assumed utilization rate as a  
12 percentage of that young lawyer's  
13 bill rate.

14 BY MR. ISAACSON:

15 Q. And are you aware of any  
16 studies which express the marginal  
17 revenue product of labor in terms of the  
18 percentage of revenue of the firm?

19 A. I'm not aware, but as you've  
20 expressed it, that's not quite what I'm  
21 doing either.

22 Q. Now, in terms of -- did you  
23 make any effort to measure the marginal  
24 revenue product of labor of UFC fighters?

1 Q. Well, I didn't ask about the  
2 brand.

3 The -- you would agree --  
4 you would agree with me that effective  
5 marketing and promotion could increase  
6 the average revenue per event, correct?

7 A. Yes.

8 Q. And you would agree with me  
9 that super- -- improving television  
10 production can increase the average  
11 revenue per event?

12 MR. CRAMER: All things  
13 equal?

14 MR. ISAACSON: Yes.

15 THE WITNESS: I'm not sure  
16 what -- what you mean by improving  
17 television production.

18 BY MR. ISAACSON:

19 Q. A better production that  
20 people enjoy more.

21 MR. CRAMER: Objection to  
22 form.

23 THE WITNESS: And you're  
24 asking me if I can conceive of

1 A. Yes.

2 Q. Okay. And what would you  
3 point to me for that?

4 A. What I did, which is I -- I  
5 calculated the average revenue per event,  
6 per fighter, and I'm using that as a  
7 proxy for the marginal revenue product.

8 Q. All right. If the  
9 average -- when you look at the average  
10 revenue per event, per fighter, how do  
11 you determine what part of that revenue  
12 is the contribution of the fighter as  
13 opposed to, for example, marketing,  
14 promotions, production or the work of the  
15 overall firm?

16 A. So for my purposes, I don't  
17 need to figure out that -- that  
18 decomposition. I will note, however,  
19 that I cite a study in my literature  
20 review section that suggests that the  
21 fighter is responsible for, if not all,  
22 the vast majority of -- of the  
23 pay-per-view revenues that are captured  
24 and not the brand.

1 this as a matter of theory?

2 BY MR. ISAACSON:

3 Q. Yes.

4 A. As opposed to whether it  
5 actually happened?

6 Q. Yes.

7 A. I think I'm -- I'm going to  
8 grant you that as a matter of theory one  
9 could -- one could add value by  
10 increasing the quality of the production.

11 Q. Okay. Now, in this case,  
12 you did not do an actual study yourself  
13 of the contribution of the UFC fighters  
14 to the average revenue per event; is that  
15 right?

16 MR. CRAMER: Asked and  
17 answered.

18 THE WITNESS: I think that's  
19 correct. As I noted a few moments  
20 ago, that was not necessary for my  
21 purposes.

22 BY MR. ISAACSON:

23 Q. By using the average revenue  
24 per event, per fighter as a proxy, were

1 Q. All right. Let's talk about  
2 the non-headliners.

3 So in your inverse ranking  
4 method, the number 100 fighter would be  
5 worth six times that of the number 600  
6 fighter?

7 A. Sure.

8 Q. And what in the record shows  
9 that magnitude of difference in value?

10 A. Oh, I think that you can go  
11 to -- so we have a lot of evidence that  
12 speaks to qualitatively the difference in  
13 value, and I think what you're pressing  
14 on is quantitatively.

15 Q. Yes.

16 A. Right? Well, I just want to  
17 make sure that --

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23  
24

Q. All right. So for some of  
your models you used a foreclosure share

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6 Q. The -- would another factor  
 7 that would increase the foreclosure share  
 8 for the revenue weighted measures be  
 9 increased revenue generated by Zuffa  
 10 compared to its competitors?

11 MR. CRAMER: Objection to  
 12 form. Incomplete hypothetical.

13 THE WITNESS: I can say that  
 14 holding all things equal, Zuffa's  
 15 market share, the share of Zuffa  
 16 fighters who are fighting pursuant  
 17 to an exclusionary contract, that  
 18 under the revenue weighting based  
 19 measure, and only under the  
 20 revenue weighting based measure of  
 21 foreclosure, would an increase in  
 22 the relative revenues per event,  
 23 per fighter for Zuffa cause the  
 24 foreclosure share to increase.

1 answer that question.  
 2

3 Q. Well, what would be a reason  
 4 that, assuming Zuffa did increase the  
 5 number of events and all other things  
 6 were held equal, its foreclosure share  
 7 would not increase?  
 8

9 MR. CRAMER: Asked and  
 10 answered. Form.

11 Go ahead.

12 THE WITNESS: For example,  
 13 if -- if that fighter fought  
 14 pursuant to a non-exclusionary  
 15 contract in that new event, then  
 16 that fighter would not make it  
 17 into the numerator of the -- of  
 18 the foreclosure share.

19 BY MR. ISAACSON:

20 Q. Okay. Any -- any other  
 21 reasons you can think of?

22 A. I think you have to specify  
 23 what's happening to the non-Zuffa events  
 24 around the time that you're taking the  
 measure. So the mere advent of a Zuffa  
 event doesn't necessarily increase the

1 BY MR. ISAACSON:

2 Q. And for the revenue weighted  
 3 foreclosure measures, holding all other  
 4 things equal, if Zuffa increased the  
 5 number of events it was holding during  
 6 the year, that would increase its  
 7 foreclosure share, am I right about that?

8 A. Well, I have to -- I have to  
 9 add again a bunch more to the  
 10 hypothetical to be able to say whether an  
 11 added event would change the foreclosure  
 12 share. But I can't answer the  
 13 hypothetical as you've -- as you've  
 14 stated it.

15 Q. Well, for the revenue  
 16 weighted foreclosure events, holding --  
 17 foreclosure measures, holding all other  
 18 things equal, if Zuffa increased the  
 19 number of events that earned revenue, its  
 20 foreclosure share would increase; is that  
 21 correct?

22 A. I would need to add more --  
 23 more layers to the hypothetical. So I  
 24 guess I would say I can't -- I just can't

1 foreclosure shares.

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1 conduct, I'm assuming that in a  
 2 but-for world these vertical  
 3 restrictions in the fighter  
 4 contracts that impose exclusivity  
 5 and duration of a certain extent  
 6 would disappear.

7 Now -- with one caveat, and  
 8 it's important, is that when I go  
 9 to, say, a 30 percent foreclosure  
 10 level, so long as a small enough  
 11 share of Zuffa fighters, given its  
 12 market share, were fighting  
 13 pursuant to one of these contracts  
 14 with 30-month duration or more,  
 15 you could, you could make that  
 16 consistent with a but-for  
 17 foreclosure share of 30 percent.

18 BY MR. ISAACSON:

19 Q. Okay. And in your but-for  
 20 world -- let me ask you this. What do  
 21 you mean by the but-for world in this  
 22 circumstance?

23 A. Well, it is a -- it is a  
 24 world -- it's a more competitive labor

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1 market, a world with fewer restrictions  
 2 on labor mobility.

3 Q. So in estimating impact and  
 4 damages, you have estimated the world --  
 5 you compared the world as it is to a  
 6 world that would have more competitive --  
 7 a more competitive labor market for UFC  
 8 fighters; is that correct?

9 MR. CRAMER: Objection to  
 10 form.

11 THE WITNESS: My -- my  
 12 construction of but-for world in  
 13 this regression model, is -- is  
 14 envisioning a world in which the  
 15 restrictions on fighter mobility  
 16 are lessened sufficiently so as to  
 17 permit 30, 20 or zero percent  
 18 foreclosure shares, and there's a  
 19 lot of ways that you can get  
 20 there.

21 BY MR. ISAACSON:

22 Q. And by fighter mobility, you  
 23 mean the ability to work for different  
 24 promoters; is that right?

8 Q. All right. Now, if I  
 9 understand your answers earlier today, in  
 10 estimating damages and impact, you have  
 11 proposed a world where there would be,  
 12 depending on the model, a zero,  
 13 20 percent or 30 percent foreclosure, but  
 14 in those worlds you're not assuming any  
 15 specific market share or any specific  
 16 conduct by Zuffa; is that right?

17 MR. CRAMER: Objection to  
 18 form, misstates the testimony.

19 THE WITNESS: You put  
 20 something at the end that's  
 21 causing me to pause.

22 I did testify earlier that  
 23 I'm not assuming any particular  
 24 market share. With respect to the

1       A. An impediment to mobility or  
2 restrictions that preclude you from --  
3 from working for rivals or for shopping  
4 your contract around or testing your  
5 market value.

6       Q. When you say a but-for  
7 world -- you've done a comparison of the  
8 real world to the but-for world, you've  
9 estimated the world -- you compared the  
10 world as it is to a world with more  
11 mobility in the MMA labor market.

12      A. I think in very broad terms  
13 that's what I'm trying to get at. And  
14 mathematically the way that I express  
15 that is a world in which Zuffa's  
16 foreclosure share is 30 percent,  
17 20 percent or zero percent.

[REDACTED]

[REDACTED]

10      Q. All right. The -- and I  
11 think you told me also this morning that  
12 you're not assuming -- in terms of market  
13 share in the world with more mobility,  
14 your but-for world of zero, 20 percent or  
15 30 percent foreclosure, Zuffa could have  
16 a very high market share; is that right?

17      A. Absolutely.

18      Q. Right. And could Zuffa have  
19 a market share of 90 percent and still  
20 have a foreclosure of zero?

21      A. Yes.

22      Q. And you're not predicting  
23 what Zuffa's market share would be in a  
24 world with zero percent foreclosure?

1 A. I'm not predicting a precise  
 2 number for what Zuffa's market share  
 3 would be in that but-for world.  
 4 Q. And you are not predicting  
 5 with a zero percent foreclosure, for  
 6 example, how many competitors there would  
 7 be in the marketplace?  
 8 MR. CRAMER: Objection to  
 9 form.  
 10 THE WITNESS: I don't think  
 11 so, no.

12 BY MR. ISAACSON:

13 Q. Okay. And you are not  
 14 predicting with zero percent foreclosure  
 15 your but -- one of your but-for worlds  
 16 the market share of any competitor -- of  
 17 any competitor or potential competitor,  
 18 correct?

19 A. Correct.

20 Q. And do you consider the  
 21 markets you defined to have high barriers  
 22 to entry other than any of the acts of  
 23 Zuffa you've identified?

24 A. I have a section titled

1 A. Oh.  
 2 Q. I assume you've used the  
 3 phrase at some point or the other?  
 4 A. Of course I have. I've  
 5 done -- I've done many antitrust cases.  
 6 Q. Sure.  
 7 A. So I have to.  
 8 Q. So do you consider the  
 9 natural barriers to entry here to be high  
 10 barriers to entry?  
 11 A. I think they're --  
 12 MR. CRAMER: Asked and  
 13 answered.  
 14 THE WITNESS: Yeah, I like  
 15 putting it this way.  
 16 MR. ISAACSON: Asked, but  
 17 not answered.  
 18 MR. CRAMER: Well --  
 19 THE WITNESS: What's  
 20 important. I mean, I'm going --  
 21 I'm going to give you an answer,  
 22 but we can't lose sight of the  
 23 fact when we're doing an indirect  
 24 approach to -- to product -- to

1 Natural Barriers to Entry, and so I  
 2 think -- I think there are some. They  
 3 are important and they would exist in the  
 4 but-for world as well.

5 I think that in this case,  
 6 the artificial barriers to entry are more  
 7 important, they're more economically  
 8 significant than the natural barriers to  
 9 entry.

10 Q. All right. And do you  
 11 consider the natural barriers to entry in  
 12 this case to represent high barriers to  
 13 entry?

14 A. They're barriers. They  
 15 are -- they're not trivial, they're  
 16 economically significant, and you saw  
 17 what I -- what I think of them in the  
 18 paragraph that I discuss them in.

19 Q. I haven't met an economist  
 20 yet who hasn't used the phrase high  
 21 barriers to entry.

22 A. Who hasn't?

23 Q. Who hasn't used it at some  
 24 point or the other.

1 market power, we're asked to look  
 2 at high shares and relevant market  
 3 and high barriers to entry. They  
 4 don't have to all come from  
 5 natural barriers to entry, it can  
 6 be a combination of natural  
 7 barriers to entry and artificial  
 8 barriers to entry.

9 In this case, I think the  
 10 natural barriers to entry are  
 11 significant, but on a relative  
 12 basis, I think they're -- they're  
 13 less important than are the  
 14 artificial barriers to entry.

15 BY MR. ISAACSON:

16 Q. You've told me several times  
 17 that you consider the artificial barriers  
 18 to be more important than the natural  
 19 barriers. Standing alone, are the  
 20 natural barriers to entry here high  
 21 barriers to entry?

22 MR. CRAMER: Objection to  
 23 form, asked and answered.

24 THE WITNESS: So perhaps

1 when you go to damages, if you  
 2 remove the vertical restrictions  
 3 and fighters start fleeing, USC  
 4 and going instead to Bellator,  
 5 where does the UFC go in terms of  
 6 its wage share? That's the  
 7 relevant question.

8 BY MR. ISAACSON:

9 Q. All right. I sometimes have  
 10 other questions even if you deem them  
 11 irrelevant, so I'm going to ask them.

12 The -- when you do a  
 13 yardstick analysis between two firms to  
 14 determine damages or an anticompetitive  
 15 effect, should the two businesses be  
 16 comparable in all important respects  
 17 other than the competition differences?

18 MR. CRAMER: Objection,  
 19 asked and answered three times.

20 MR. ISAACSON: He didn't  
 21 answer it.

22 MR. CRAMER: He did.

23 THE WITNESS: I don't think  
 24 it's necessary that they be

1 competition restrictions, you listed that  
 2 they're competing in the same relevant  
 3 input market, they're both MMA promoters,  
 4 they're both trying to go after the same  
 5 set of fighters. Anything else that  
 6 makes them comparable?

7 A. Same business models, same  
 8 industry. I don't know -- I don't know  
 9 what else I can cite, but I think those  
 10 name them pretty good comparables.

11 Q. Right. When you do a  
 12 yardstick comparison, would you  
 13 ordinarily look at the respective sales  
 14 and marketing of the two businesses?

15 A. It depends on the  
 16 application of the yardstick.

17 Q. Okay. In assessing damages  
 18 or anticompetitive effect, using the  
 19 yardstick between two firms that you're  
 20 considering as potential comparables,  
 21 would you ordinarily look at the  
 22 respective sales and marketing of those  
 23 businesses?

24 A. Well, I think I am in an

1 comparable in all respects. I  
 2 mean, here's the problem, here --

3 BY MR. ISAACSON:

4 Q. I didn't say in all  
 5 respects.

6 A. You did say all.

7 Q. I said all important  
 8 respects.

9 A. All important respects.

10 Sometimes you're not going to get that.  
 11 And here, the biggest difference between  
 12 the two is -- is caused, at least in  
 13 part, by the conduct. The conduct is  
 14 restricting the output of Bellator, the  
 15 conduct restricted the output of  
 16 Strikeforce.

17 And so for you now to claim  
 18 that we can't look at these market-based  
 19 transactions because of the harm that we  
 20 inflicted, it's -- it's partly your  
 21 problem as well.

22 Q. All right. You've said the  
 23 reasons that Bellator and Strikeforce are  
 24 comparable to UFC, other than the

1 indirect way in a sense that to the  
 2 extent marketing pushes up demand and  
 3 pushes out revenue by -- by controlling  
 4 for differences in revenue, I'm -- I'm  
 5 capturing that.

6 Q. When you do the yardstick,  
 7 how do you control -- when you do the  
 8 yardstick comparison, how are you  
 9 controlling for the amount of revenue?

10 A. I'm denominating the pay in  
 11 terms of fighter share per revenue.

12 Q. Right. But if the -- you're  
 13 assuming that the amount of revenue won't  
 14 affect the percentage fighter share?

15 A. I wouldn't put it that way.

16 Q. Okay. But going back to my  
 17 question, because I would like to get an  
 18 answer, because you said -- you said in  
 19 an indirect way you were looking at it.

20 But in assessing anticompetitive effect  
 21 or damages using a yardstick measure,  
 22 would you ordinarily directly compare the  
 23 respective sales and marketing of those  
 24 businesses?

1 MR. CRAMER: Objection to  
 2 the form ordinarily. Form.  
 3 THE WITNESS: It would  
 4 depend on the application.

5 BY MR. ISAACSON:

6 Q. And when you say -- you've  
 7 said you used yardsticks or benchmarks  
 8 often before and you mentioned appraisal?

9 A. Of fair market value.

10 Q. Appraisals of fair market  
 11 value. Have you -- other than Arizona  
 12 nurses, have you used them previously in  
 13 estimating anticompetitive effect or  
 14 damages in an antitrust cases?

15 A. I'd have to -- I'd have to  
 16 go back case-by-case, but nothing is  
 17 popping in my head right this second.

18 Q. Is there any literature in  
 19 your field that establishes standards for  
 20 how you determine what's an appropriate  
 21 yardstick, what -- you know, to what  
 22 extent you should decide they're  
 23 comparable?

24 A. I -- I imagine there are

1 Q. Right.  
 2 A. But I have looked at them  
 3 and I'm familiar with them, and I'm using  
 4 my economic judgment to tell you they are  
 5 good benchmarks.

6 Q. All right. I understand  
 7 you're using your economic judgment and  
 8 you're saying they're good benchmarks.  
 9 But at the time you selected the  
 10 benchmarks, did you have -- were you  
 11 able -- did you have -- did you know  
 12 any -- any published standards for  
 13 selecting the yardstick for determining  
 14 anticompetitive effect or damages?

15 A. Did I have a particular  
 16 article in my mind as I --

17 Q. Not just the article, just  
 18 any standards.

19 A. Sure, I know -- I know what  
 20 you're trying to do. I know generally  
 21 what you're trying to do to abide by the  
 22 standards.

23 Q. What's -- when you say abide  
 24 by the standards, what standards are you

1 papers again in very applied antitrust  
 2 journals that would talk about standards  
 3 for yardsticks, but you wouldn't find  
 4 something in a general economics journal.

5 Q. Are you familiar with any  
 6 published articles sets standards for  
 7 what's an appropriate yardstick in  
 8 estimating damages or an anticompetitive  
 9 effect?

10 A. I believe I've seen some  
 11 articles, but I'm not going to be able to  
 12 call up the name of the author for you  
 13 right now.

14 Q. Right. Those are -- those  
 15 aren't -- before you chose your  
 16 yardstick, you did not look at any  
 17 published standards for determining  
 18 what's an appropriate yardstick; is that  
 19 correct?

20 A. Well, I've just told you  
 21 I've looked at those things. I don't  
 22 know if I looked at them the moment that  
 23 I seized upon the Strikeforce and  
 24 Bellator.

1 referring to?

2 A. The standards of good  
 3 practice in economics.

4 Q. Okay. And the standards for  
 5 good practice in economics for  
 6 determining yardstick or determining  
 7 anticompetitive effect or antitrust  
 8 damages, you're not aware today of any  
 9 list of those standards; is that right?

10 A. A list of the standards?

11 Q. Or a --

12 A. I don't understand what that  
 13 means.

14 Q. A list or a description.

15 A. I know -- I know what you're  
 16 trying to do, which is to find a  
 17 competitive rate, right? You're trying  
 18 to find a rate that is offered by a firm  
 19 that is similarly situated that -- that  
 20 is not engaged in the challenged conduct.  
 21 Right? And so for me, I think it's  
 22 perfectly reasonable to go looking for  
 23 the rates that are offered by competitive  
 24 firms in the same industry for fighters.

1 you have used are consistent with the  
 2 merger guidelines, but you're not able to  
 3 say whether they were sufficient to  
 4 define those markets based on the merger  
 5 guidelines?

6 MR. CRAMER: Objection to  
 7 form.

8 THE WITNESS: I don't -- I  
 9 just don't know what sufficient  
 10 means in that context.

11 BY MR. ISAACSON:

12 Q. Okay. And when you say  
 13 they're consistent with the guidelines,  
 14 what do you mean?

15 A. I think the guidelines tell  
 16 us, and I even quote the guidelines when  
 17 it comes to defining input markets, and  
 18 I'm faithful to the -- to the teachings  
 19 and to the standards that are articulated  
 20 in the guidelines.

21 Q. All right. And the output  
 22 markets that you define -- well, actually  
 23 let me break it down.

24 There's three -- two input

1 So -- so the way that I've  
 2 implemented the output market, it depends  
 3 on -- on the associated input market.

4 Q. Right. And that's why  
 5 mathematically I'm trying to understand  
 6 whether you have three output markets  
 7 tied -- each one tied to an associated  
 8 input market or there's one output market  
 9 tied to the three input markets.

10 A. Again, I like to think of  
 11 there being one output market and one  
 12 input market and these are just different  
 13 ways to measure them.

14 Q. And the -- when you defined  
 15 the output market, you used revenue  
 16 weighting; is that right? Oh, no, it's  
 17 other way around. Never mind.

18 The revenue earned by the  
 19 output market is the revenue that you use  
 20 when you do revenue weighting in the  
 21 input markets, correct?

22 A. It is possible to think of  
 23 it that way, but when I was finding my  
 24 weights, my revenue weighting measures

1 markets and one submarket, and there' a  
 2 geographic market for each of those,  
 3 correct?

4 A. Correct.

5 Q. And the geographic market  
 6 for all three would be North America?

7 A. Yes.

8 Q. Okay. And then you define  
 9 an output market. Is that an output  
 10 market that's tied to each input market  
 11 or is there one output market?

12 A. There's one output market,  
 13 but it does depend on how you have  
 14 defined the input market. You may recall  
 15 that when I -- when I chart, for example,  
 16 the number of events in the relevant  
 17 output market, it depends on -- I'm  
 18 making it as a condition that an event --  
 19 an MMA event had to feature at least one  
 20 fighter that belonged to the relevant --  
 21 to the associated relevant input market.  
 22 You probably recall --

23 Q. Yes.

24 A. Those charts, 4A, B and C.

1 of, say, market share or foreclosure  
 2 share, I wasn't thinking about the fact  
 3 that those revenues occur in the output  
 4 market. But that's fair, if that's how  
 5 you would like to think about it. Of  
 6 course the -- the output is the  
 7 production of the event and the revenue  
 8 is associated with that output.

9 Q. Right. And can you describe  
 10 to me a situation where a firm would have  
 11 monopoly (sic) power in the output market  
 12 based on revenue, and would not have  
 13 monopsony power in the input market once  
 14 you use the revenue weighting?

15 MR. CRAMER: Incomplete  
 16 hypothetical. Talking about this  
 17 industry or just generally?

18 MR. ISAACSON: Generally.

19 MR. CRAMER: Incomplete  
 20 hypothetical.

21 THE WITNESS: I don't  
 22 understand the question because  
 23 the revenue weighting isn't really  
 24 affecting my -- my conclusions

1 with respect to, say, a finding of  
 2 monopsony power in the input  
 3 market.

4 BY MR. ISAACSON:

5 Q. Well, you do have findings  
 6 of monopsony power that do rely on  
 7 revenue weighting, right?

8 A. I think that under the --  
 9 under the indirect approach and under  
 10 only one pass through the indirect  
 11 approach, I weight fighters by -- by  
 12 revenues to make an inference about  
 13 Zuffa's high shares in that relevant  
 14 input market.

15 Q. Right.

16 A. But as you know, that's only  
 17 one of many, many approaches that allow  
 18 me to get to the conclusion of monopsony  
 19 power.

20 Q. Okay.

21 A. I actually prefer --

22 Q. So let's return --

23 A. Can I finish?

24 Q. I thought you were.

1 construct a scenario about how  
 2 that could occur.

3 BY MR. ISAACSON:

4 Q. All right. The -- and then  
 5 you've described geographic market for  
 6 the output market also. And is that also  
 7 North America?

8 A. Yes.

9 Q. All right. The -- and in  
 10 terms of your SSNIP analysis -- all  
 11 right. So did you do -- well, my  
 12 colleague wants to know so it seems like  
 13 a good question.

14 A. I'm sure it is.

15 Q. In the out -- in the output  
 16 market, what is being sold? In the  
 17 output markets that you have defined.

18 A. Sure. I think that you  
 19 are -- the production or the product that  
 20 is being produced are -- is live MMA  
 21 events and the revenue associated with  
 22 those events can take the form of gate  
 23 revenue or pay-per-view. That's from --  
 24 from the consumer side. Of course,

1 A. I prefer direct evidence  
 2 generally, and I think that I've -- I  
 3 offer a slew of evidence that speaks to  
 4 how you can prove directly that Zuffa  
 5 exercises monopsony power.

6 Q. I understand that you  
 7 offered direct and indirect evidence, but  
 8 I need to ask about them one at a time  
 9 and we can cover both.

10 A. Okay.

11 Q. So in terms of when you  
 12 define a market, can you describe to me a  
 13 situation where if you use revenue  
 14 weighting in the input market, where  
 15 the -- a monopoly firm would not  
 16 necessarily have a monopoly in the input  
 17 market?

18 MR. CRAMER: Incomplete  
 19 hypothetical, form.

20 THE WITNESS: I've never  
 21 given thought to that, and I'd  
 22 like to think about it and maybe  
 23 we'll come back. But I don't  
 24 think I'm prepared to -- to

1 there's -- there's revenues from the  
 2 advertiser's side as well.

3 But I hope that answers your  
 4 question.

5 Q. All right. And does  
 6 pay-per-view compete with broadcast?

7 MR. CRAMER: Objection to  
 8 form.

9 THE WITNESS: I did not  
 10 conduct that inquiry.

11 BY MR. ISAACSON:

12 Q. Do you have an opinion one  
 13 way or another about that?

14 A. No.

15 Q. All right. With respect to  
 16 the -- does -- do the live venue events  
 17 compete with pay-per-view events?

18 A. I don't even understand the  
 19 question. Many of the pay-per-view  
 20 events are live.

21 Q. Meaning I watch it on  
 22 pay-per-view as opposed to go see it  
 23 live.

24 A. I haven't -- I haven't

1 studied that and I imagine for someone  
 2 who lives very far from the venue where  
 3 the live event is staged, they would not  
 4 be considered reasonably close  
 5 substitutes.

6 Q. So for your input markets,  
 7 what evidence did you take into account  
 8 to assess customer's likely response to  
 9 price increase in the SSNIP analysis?  
 10 And feel free to point me to the sections  
 11 of your report that --

12 A. Did you mean to say -- I  
 13 think you just conflated the input  
 14 markets and customers. Maybe we should  
 15 start over.

16 Q. Yes, I said price increase  
 17 rather than wage decrease, but let me  
 18 just put it this way: What evidence in  
 19 your report did you take into account to  
 20 assess the likely response to a SSNIP in  
 21 the input markets?

22 A. Sure. So there it's the  
 23 perspective of the fighters not the  
 24 customers. So I was tripping up over

1 to --  
 2 MR. CRAMER: Okay.  
 3 MR. ISAACSON: I'm not going  
 4 to ask him to recite all the  
 5 documentary evidence.

6 BY MR. ISAACSON:

7 Q. And I understand that  
 8 there's documentary evidence that you're  
 9 not reciting today.

10 Okay. Other than the record  
 11 evidence of the -- about sub- --  
 12 perceptions of substitutability from the  
 13 stakeholders, what would be other parts  
 14 of your SSNIP analysis for the input  
 15 market?

16 A. I would direct you to  
 17 Section 3A 1 for all of the evidence that  
 18 I used to inform the construction of the  
 19 relevant input market.

20 Q. That would be the record  
 21 evidence that you were referring to?

22 A. Well, record evidence is  
 23 fairly broad, right, because it  
 24 encompasses almost everything. But I

1 your --

2 Q. Yes.

3 A. -- injecting customers when  
 4 we're talking about input markets.

5 So I can take you to the  
 6 relevant sections, and I will, but of  
 7 course at high levels, I'm looking at  
 8 record evidence of -- of what fighters  
 9 and promoters thought about substitution  
 10 possibilities as you -- if you were to  
 11 move away from Zuffa to counteract a  
 12 hypothetical wage cut.

13 Q. Okay. So the first thing  
 14 you looked at was record evidence of  
 15 substitution.

16 A. Or the perception of  
 17 substitution from the stakeholders, the  
 18 fighters, the promoters, and I'll just  
 19 point you, if you --

20 Q. That's -- that's sufficient  
 21 for -- for item 1.

22 MR. CRAMER: You asked him  
 23 to look at his report.

24 MR. ISAACSON: I'm going

1 will point -- to me the -- what helps to  
 2 guide me to the findings that I made with  
 3 respect to the input market was the fact  
 4 that Zuffa was able to successfully  
 5 suppress fighter wages, wages either  
 6 measured by -- by wage share, regression  
 7 or by knowledge of the fact that wage  
 8 shares were falling over time from  
 9 26 percent to 18 percent, yet Zuffa did  
 10 not suffer sufficient defection so as to  
 11 render that wage decrease unprofitable.

12 Now, that -- that tells you,  
 13 as a matter of economics, that a -- that  
 14 a reasonable starting place for defining  
 15 the contours of the relevant input market  
 16 is just the fighters under Zuffa's  
 17 control. That was the -- the first thing  
 18 that occurred to me.

19 And once you -- once you  
 20 start there, you can start looking at  
 21 record evidence to determine whether  
 22 additional fighters from -- from rival  
 23 promotions ought to be included so that  
 24 you eventually get to the smallest set of

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1 fighters such that a hypothetical  
 2 monopsonist could profitably exercise  
 3 monopsony power.

4 Q. All right. And you said  
 5 that Zuffa was able to successfully  
 6 suppress fighter wages -- wage share.  
 7 You were talking only about the share of  
 8 revenues there, correct?

9 A. Correct.  
 [REDACTED]

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1 BY MR. ISAACSON:

2 Q. So my actual question was --  
 3 I understand you're focused on that, but  
 4 my question is, did you look at whether  
 5 Zuffa actually suppressed actual wages?

6 A. Without controlling for  
 7 revenues, no. Because it's incorrect to  
 8 do so.

9 Q. So in performing your SSNIP  
 10 analysis for the input markets, is it  
 11 fair to say that you relied on the record  
 12 evidence about the issue of perceived  
 13 substitution from the stakeholders along  
 14 with your observations that when Zuffa  
 15 suppressed fighter wage shares, there  
 16 weren't significant defections?

17 A. I think -- I think that  
 18 encompasses a lot. I also think that  
 19 Zuffa in its ordinary course of business  
 20 made use of a FightMetrics (sic)  
 21 database. I had -- the very first thing  
 22 I did when I -- when I got this case was  
 23 I started reading the economic literature  
 24 on the MMA industry, and almost every

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5 BY MR. ISAACSON:

6 Q. All right. But in your --  
 7 in your hypothetical there you held  
 8 revenues constant. Did you look at, as  
 9 part of your analysis of the input market  
 10 and defining that market, as to whether  
 11 Zuffa actually suppressed actual wages?

12 MR. CRAMER: Objection to  
 13 form.

14 BY MR. ISAACSON:

15 Q. As opposed to wage share?

16 MR. CRAMER: Same objection.

17 THE WITNESS: I'm focused on  
 18 wage share, of course, because  
 19 it's the right thing to look at  
 20 from an economic perspective.  
 21 We're trying to measure  
 22 exploitation, and the textbooks  
 23 tell you to do it as a share of  
 24 marginal revenue product.

1 article I read, the FightMetrics (sic)  
 2 database formed the foundation of their  
 3 empirical analysis.

4 So I thought that that was a  
 5 reasonable place to begin to posit what  
 6 the smallest set of fighters that could  
 7 be under the control of a hypothetical  
 8 monopsony would be in order for it to  
 9 exercise market power.

10 Q. All right. Why did you use  
 11 the smallest set of fighters not the  
 12 smallest amount of promoters?

13 A. Well, because we're looking  
 14 at the input market. The fighters form  
 15 the elements of the input market. They  
 16 happen to belong to promoters, but  
 17 fighters are the elements or the  
 18 ingredients.

19 But I'm -- if I'm a  
 20 fighter -- just to make it clear, if I'm  
 21 a fighter and I'm thinking about  
 22 substituting, defecting from UFC and  
 23 going to a rival promotion, I don't care  
 24 what the name of the promotion is or

1 [REDACTED]  
 2 [REDACTED]  
 3 [REDACTED]  
 4 [REDACTED]  
 5 Q. But as to the -- when you  
 6 say significantly compared to the total  
 7 number of Zuffa fighters, would that mean  
 8 at least 50 or would you not have an  
 9 opinion on that?

10 MR. CRAMER: Objection to  
 11 form.

12 THE WITNESS: Oh, sitting  
 13 here today, I can't put a number  
 14 on it.

15 BY MR. ISAACSON:

16 Q. Okay. The -- and in a world  
 17 with zero percent foreclosure by Zuffa,  
 18 the fighters who were maintained by Zuffa  
 19 under contract that they -- you say they  
 20 could not use, in that world would those  
 21 fighters still be Zuffa fighters?

1 Q. In a world -- in a world  
 2 with -- where Zuffa has zero percent  
 3 foreclosure, would Zuffa contract with  
 4 fewer fighters?

5 A. I think directionally you  
 6 would see leakage and defective from  
 7 Zuffa to rivals.

8 You had asked me earlier if  
 9 I put an exact market share associated  
 10 with it and I said no because I -- I  
 11 can't, but I feel comfortable saying, at  
 12 least directionally, that in a more  
 13 competitive world with fewer restrictions  
 14 on fighter mobility, you would see more  
 15 mobility. I mean, it's almost -- it's  
 16 almost tautological.

17 Q. I think previously you told  
 18 me that in a world where Zuffa had a zero  
 19 percent foreclosure, it still could have  
 20 a market share as high as 90 percent. If  
 21 that were the case, if it had zero  
 22 percent foreclosure and a 90 percent  
 23 market share, would Zuffa be contracting  
 24 with fewer fighters than it is today?

1 A. They may be Zuffa fighters  
 2 and they may not be. I think -- I think  
 3 a plausible scenario is those fighters  
 4 break out when you relax their  
 5 restrictions and go fight. They want to  
 6 fight. You know, there's -- Dan White  
 7 has this notion of rusting. He's got a  
 8 phrase for it, what happens when a  
 9 fighter sits around and doesn't get to  
 10 fight.

11 I understand that it hurts  
 12 their -- their careers, it hurts their  
 13 ability to elevate in the profession when  
 14 they're sitting around. Not only are  
 15 they not fighting, but their muscles and  
 16 the experience of being in a fight, it's  
 17 hard to replicate in practice, and  
 18 moreover, you don't get the opportunity  
 19 to elevate by fighting other ranked  
 20 fighters.

21 And you don't earn money. I  
 22 mean, that's the -- that's the real  
 23 thing. You don't get paid in this  
 24 profession unless you fight.

1 MR. CRAMER: Incomplete  
 2 hypothetical.

3 THE WITNESS: I think that  
 4 it's a complicated -- it's a  
 5 complicated one. I'd probably  
 6 have to think about it.

7 BY MR. ISAACSON:  
 [REDACTED]

21 Q. So to infer the price  
 22 increase, did you take the amount of  
 23 revenue for pay-per-view and divide it by  
 24 the number of units?

1 A. I think revenue and units  
2 were elements of my calculus, yes.

3 Q. All right. You did not look  
4 at the actual amounts charged by the  
5 cable company for the pay-per-view event?

6 A. I think -- I think I agree  
7 with you that in this case I was looking  
8 at it from the perspective of Zuffa.

9 Q. All right.

10 A. Which is the relevant  
11 perspective to determine whether it was  
12 profitable for Zuffa.

13 Q. Well, does the revenue  
14 percentage of Zuffa vary even when the  
15 pay-per-view price remains the same?

16 MR. CRAMER: Incomplete  
17 hypothetical.

18 THE WITNESS: I'm sorry, the  
19 revenue percentage of what?

20 BY MR. ISAACSON:

21 Q. So you were looking at Zuffa  
22 revenue times pay-per-view units,  
23 correct? I mean, divided by pay-per-view  
24 units.

1 A. Correct.

2 Q. Correct. And Zuffa's  
3 revenue by pay-per-view would be the  
4 revenue share it gets from the cable  
5 company?

6 A. Correct.

7 Q. Correct? And is it the case  
8 that -- that the revenue share percentage  
9 goes up and goes down irrelevant (sic) to  
10 the price of the actual pay-per-view?

11 MR. CRAMER: Objection to  
12 form.

13 THE WITNESS: And I don't  
14 know. I think that it would all  
15 depend. I would have to think  
16 about it.

17 BY MR. ISAACSON:

[REDACTED]

7 Q. So you're characterizing all  
8 of the pay-per-view events as marquee  
9 events when you say marquee events?

10 A. I think that you might be  
11 able to find counterexamples, a handful  
12 of counterexamples of a pay-per-view that  
13 doesn't feature a headliner, but in  
14 general it would be really hard to sell  
15 it unless it featured a headliner.

16 Q. Right. And did the -- and  
17 if Zuffa -- if a firm decided that it  
18 wanted to move marquee events from  
19 pay-per-view to broadcast, would you  
20 consider that direct evidence of power to  
21 restrict supply?

22 MR. CRAMER: Incomplete  
23 hypothetical, form.

24 THE WITNESS: Well, you're

1 record.  
2 (Recess.)  
3 THE VIDEOGRAPHER: The time  
4 is 4:31 PM. We have been on the  
5 record for five hours and  
6 36 minutes.

7 MR. CRAMER: All right. We  
8 have no questions.

9 MR. ISAACSON: Thanks.

10 MR. CRAMER: Let's go off  
11 the record.

12 THE VIDEOGRAPHER: All  
13 right. The time is 4:31 PM.

14 This concludes the  
15 deposition and this is the end of  
16 Disk 3.

17 (Witness excused.)

18 (Deposition concluded at  
19 approximately 4:31 PM.)

1 asking me to assume something that  
2 I understand to be an unprofitable  
3 move.

4 But if -- if your experts  
5 can show evidence that these  
6 marquee events moved one-for-one  
7 from pay-per-view to -- to  
8 television, I'd be happy to  
9 consider such evidence. But I  
10 don't have an opinion on it right  
11 now.

12 Q. Okay.

13 THE VIDEOGRAPHER: Excuse  
14 me, Counsel. We're approaching  
15 ten minutes left on the disk.

16 MR. ISAACSON: I think I'm  
17 done.

18 Give me one minute, but I  
19 think I'm about done for the day.

20 Give us a minute.

21 MR. CRAMER: Let's go off  
22 the record.

23 THE VIDEOGRAPHER: The time  
24 is 4:28 PM. We are going off the

1  
2 CERTIFICATE

3  
4  
5 I HEREBY CERTIFY that the  
6 witness was duly sworn by me and that the  
7 deposition is a true record of the  
8 testimony given by the witness.

9 It was requested before  
10 completion of the deposition that the  
11 witness, HAL J. SINGER, Ph.D., have the  
12 opportunity to read and sign the  
13 deposition transcript.

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*Constance Kent*  
Constance S. Kent, CCR, RPR, C-Ver-i  
Certified Court Reporter  
Registered Professional Reporter  
Certified LiveNote Reporter  
and Notary Public in and for the  
Commonwealth of Pennsylvania  
Dated: October 1, 2017



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